

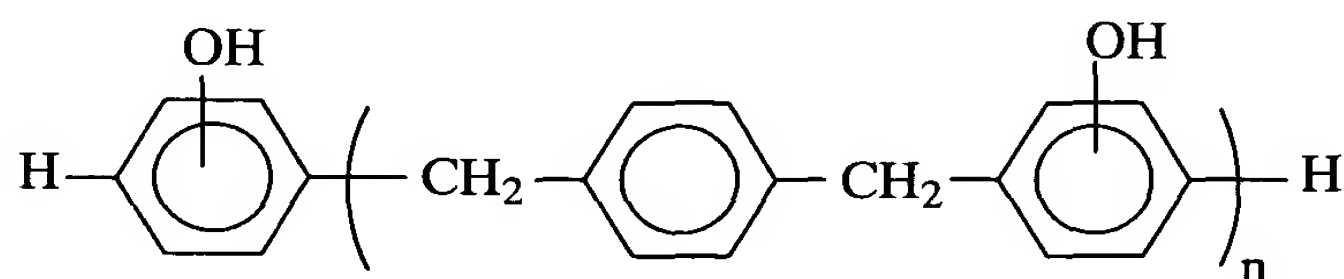
What Is Claimed Is:

1. A flame retardant epoxy resin composition comprising (A) a halogen-free epoxy resin with at least 2 epoxy groups within each molecule, (B) a curing agent, and (C)
5 a foaming agent.

2. The composition according to claim 1, wherein the epoxy resin of the component (A) comprises a bisphenol A type epoxy resin, a bisphenol F type epoxy resin, a bisphenol S type epoxy resin, a phenol novolak type epoxy resin, a cresol novolak type
10 epoxy resin, a naphthalene type epoxy resin, a biphenyl type epoxy resin, an N-glycidyl compound derived from an aromatic amine and a heterocyclic nitrogen base, or a combination of two or more thereof.

3. The composition according to claim 1, wherein the curing agent of the component (B) comprises a C₂ to C₂₀ straight chain aliphatic diamine, a straight chain aliphatic polyvalent amine, an alicyclic amine, an aromatic amine, a dicyanamide, a resol
15 type phenol resin, a novolak type resin, a phenol resin, a polyoxystyrene, an acid anhydride, or a combination of two or more thereof.

20 4. The composition according to claim 1, wherein the curing agent of the component (B) comprises a phenol aralkyl resin having a structure represented by the formula:



25 5. The composition according to claim 1, wherein the curing agent of the component (B) is a compound with at least two phenolic hydroxyl groups within the molecule.

6. The composition according to claim 5, wherein said compound with at least two phenolic hydroxyl groups is a novolak type phenol resin, a resol type phenol resin, a polyoxystyrenes, a phenol aralkyl resin, or a combination of two or more.

5 7. The composition according to claim 1, wherein a decomposition temperature of a foaming agent of said component (C) is at least 180°C.

8. The composition according to claim 1, wherein a decomposition temperature of a foaming agent of said component (C) is at least 200°C.

10

9. The composition according to claim 1, wherein a decomposition temperature of a foaming agent of said component (C) is at least 250°C.

10. The composition according to claim 1, wherein a quantity of gas generated
15 from a foaming agent of said component (C) is at least 40 ml/g.

11. The composition according to claim 1, wherein a quantity of gas generated from a foaming agent of said component (C) is at least 80 ml/g.

20 12. The composition according to claim 1, wherein a quantity of gas generated from a foaming agent of said component (C) is at least 150 ml/g.

13. The composition according to claim 1, wherein said foaming agent of said component (C) comprises azodicarbonamide, azobistetrazole diaminoguanidine,
25 azobistetrazole guanidine, 5-phenyltetrazole, bistetrazole guanidine, bistetrazole piperazine, bistetrazole diammonium, N,N'-dinitrosopentamethylene tetramine, hydrazodicarbonamide, or a combination of two or more thereof.

14. The composition according to claim 1, wherein said curing agent of the
30 component (B) is present in a quantity which produces a ratio of the hydroxyl group equivalence of the component (B) relative to the epoxy equivalence of the epoxy resin of the component (A) which falls within a range from approximately 0.5 to 2.0.

15. The composition according to claim 1, wherein said curing agent of the component (C) is present in a quantity from 0.01 to 50% by weight based on the whole composition.

5 16. The composition according to claim 1, further comprising (D) a filler.

17. A semiconductor encapsulating material comprising a composition according to claim 1.

10 18. A resin encapsulated semiconductor device comprising a semiconductor device and a cured product of the composition according to claim 1 encapsulating said semiconductor device.